red with the label "Related Art." Thus, for at least these reasons, Applicants respectfully request that the objection to the drawings be withdrawn.

The Office Action requests that Applicants provide complete English language translations of Japanese Publication Nos. 61-88807, 56-161811, and 58-81113 (hereafter JP '113). Notwithstanding that Applicants have satisfied their duty of disclosure under 37 C.F.R. § 1.97, as evidenced by the initialed and executed List of References Cited by Applicant returned with the Office Action mailed October 8, 2000, Applicants will submit shortly for the Examiner's convenience complete translations of these publications.

In the Office Action, Claims 12, 13, and 26-30 were rejected under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent No. 4,638,977 to Vonhausen or U.S. Patent No. 5,881,994 to Stevenson et al. (hereafter Stevenson) or U.S. Patent No. 4,697,734 to Ueda. Claims 12, 13, and 26-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevenson, and further in view of Japanese Publication No. 6-270644 (hereafter JP '644). Claims 13-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over any of the previous references, and further in view of JP '113 or U.S. Patent No. 4,653,689 to Sakurai et al. (hereafter Sakurai) or U.S. Patent No. 4,698,980 to Noguchi et al. (hereafter Noguchi).

As stated above, independent Claims 12 and 13 have been amended to included features of cancelled dependent Claims 14-17, 20, and 21. Thus, Applicants respectfully assert that support for these features of the claims is self-evident, and that therefore no new matter has been added.

The present invention is directed to an air mixing damper apparatus including a mechanism provided between a plate door type air mixing damper for opening and closing an air introducing face of a heater core, and a rotation type lever of an actuator for driving the air mixing damper. As recited in independent Claim 12, the mechanism linearly changes the

temperature of discharged air with respect to the operation of the lever of the actuator. As recited in independent Claim 13, the mechanism adjusts the rotational speed at an initial opening stage and a final opening stage of the air mixing damper, to a speed lower than at an intermediate opening stage. As further recited in the independent claims, the mechanism includes a cam provided in the air mixing damper and a pin provided on the lever of the actuator for engaging with the cam. The cam incorporates a guide path for guiding the pin of the lever of the actuator. The guide path has a first guide path for effecting control at the initial opening stage, a second guide path for effecting control at the intermediate opening stage, and a third guide path for effecting control at the final opening stage. The first guide path is formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper. The third guide path is formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper. Examples of advantages of such a damper include that when the air mixing damper starts to open from a fully closed position, it is possible to operate so such that the damper opens gradually. Moreover, in a final opening stage, it is also possible to operate such that the damper opens gradually during the interval between a near fully opened position and a fully opened position.[1] Examples of advantages of such a damper apparatus are discussed throughout the specification.

Regarding the rejection of independent Claims 12 and 13 under 35 U.S.C. § 102(b), Applicants respectfully assert that neither Vonhausen nor Stevenson nor Ueda shows, and the Office Action does not assert that either Vonhausen or Stevenson or Ueda show, the claimed features of a cam provided in an air mixing damper and a pin provided on a lever of an

[1] Please see, for example, from page 25, line 22, to page 26, line 2, of the originally filed specification.

actuator for engaging with the cam. Therefore, Applicants respectfully assert that these references also do not show such a cam incorporating a guide path for guiding the pin of the lever of the actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper, as recited in independent Claims 12 and 13.

Specifically, independent Claim 12 recites "said mechanism for adjusting rotational speed comprising a cam provided in the air mixing damper and a pin provided on the lever of the actuator for engaging with said cam, said cam incorporating a guide path for guiding the pin of the lever of the actuator, and the guide path has a first guide path for effecting control at an initial opening stage of the air mixing damper, a second guide path for effecting control at an intermediate opening stage of the air mixing damper, and a third guide path for effecting control at a final opening stage of the air mixing damper, first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and said third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper." Similarly, independent Claim 13 recites "said mechanism for adjusting rotational speed comprising a cam provided in the air mixing damper and a pin provided on the lever of the actuator for engaging with said cam, said cam incorporating a guide path for guiding the pin of the lever

of the actuator, and the guide path has a first guide path for effecting control at the initial opening stage of the air mixing damper, a second guide path for effecting control at the intermediate opening stage of the air mixing damper, and a third guide path for effecting control at the final opening stage of the air mixing damper, said first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and said third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper."

Thus, for at least these reasons, Applicants respectfully request that the rejections of independent Claims 12 and 13 under 35 U.S.C. § 102(b) be withdrawn.

Regarding the rejection of independent Claims 12 and 13 under 35 U.S.C. § 103(a) over Stevenson, the Office Action concedes that Stevenson does not teach the claimed features of a cam provided in an air mixing damper and a pin provided on a lever of an actuator for engaging with the cam. However, the Office Action seems to assert that Stevenson suggests the use of a cam. Even if Applicants agreed with this assertion, which Applicants do not, Applicants respectfully assert that Stevenson still does not suggest the specified cam recited in independent Claims 12 and 13. Specifically, for the reasons discussed in detail above, Applicants respectfully assert that Stevenson does not teach or suggest the claimed features of such a cam incorporating a guide path for guiding the pin of the lever of the actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage of an air mixing damper, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air

mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper, as recited in independent Claims 12 and 13.

The Office Action relies on JP '644 in an attempt to remedy the deficiencies of Stevenson. However, the Office Action does not assert that JP '644 teaches or suggests, and Applicants respectfully assert that JP '644 does not teach or suggest, the claimed features of a cam provided in an air mixing damper and a pin provided on a lever of an actuator for engaging with the cam, and therefore also does not show such a cam incorporating a guide path for guiding the pin of the lever of the actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper, as recited in independent Claims 12 and 13.

Thus, for the reasons discussed in detail above, Applicants respectfully assert that neither Stevenson nor JP '644, whether taken alone or in combination, teaches or suggests the claimed features recited in independent Claims 12 and 13. Thus, for at least these reasons, Applicants respectfully request that this rejection of independent Claims 12 and 13 under 35 U.S.C. § 103(a) be withdrawn.

Regarding the rejection of independent Claims 12 and 13 under 35 U.S.C. § 103(a) in view of JP '113 or Sakurai or Noguchi, for the reasons discussed in detail below, Applicants respectfully assert that neither JP '113 nor Sakurai nor Noguchi teaches or suggests the

claimed features of a cam incorporating a guide path for guiding a pin of a lever of an actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage of an air mixing damper, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper.

Rather, Figure 4 of JP '113 appears to show a cam including a guide path that includes at most two paths. Thus, for at least these reasons, Applicants respectfully assert that JP '113 does not teach or suggest the claimed features of a cam incorporating a guide path for guiding a pin of a lever of an actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage of an air mixing damper, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper, as recited in independent Claims 12 and 13.

Similarly, Sakurai is directed to a vehicle air conditioner having a lost motion coupling. As shown in Figure 4, for example, of Sakuria, each of guide slots 27 and 34 include at most two paths. Thus, for at least these reasons, Applicants respectfully assert that Sakurai does not teach or suggest the claimed features of a cam incorporating a guide path for

guiding a pin of a lever of an actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage of an air mixing damper, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper, as recited in independent Claims 12 and 13.

Further, Noguchi is directed to an apparatus for controlling a vehicle air conditioner. As shown in Figures 2 and 3, for example, of Noguchi, the second rotary member includes driving cam face 14 and escape cam face 15 (i.e., at most two paths). Thus, for at least these reasons, Applicants respectfully assert that Noguchi does not teach or suggest the claimed features of a cam incorporating a guide path for guiding a pin of a lever of an actuator, the guide path having a first guide path for effecting control at an initial opening stage, a second guide path for effecting control at an intermediate opening stage, and a third guide path for effecting control at a final opening stage of an air mixing damper, the first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and the third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper, as recited in independent Claims 12 and 13.

Thus, for the reasons discussed in detail above, Applicants respectfully assert that none of the previously discussed references taken in view of JP '113 or Sakurai or Noguchi teaches or suggests the claimed features recited in independent Claims 12 and 13. Thus, for

at least these reasons, Applicants respectfully request that this rejection of independent Claims 12 and 13 under 35 U.S.C. § 103(a) be withdrawn. As the outstanding grounds of rejection of independent Claims 12 and 13 have been overcome for the above-discussed reasons, Applicants respectfully request allowance of the independent claims.

Remaining dependent Claims 24-28 depend from independent Claims 12 and 13, and are therefore also allowable for at least the same reasons as the independent claims. Thus, for at least these reasons, Applicants respectfully request that the rejections of dependent Claims 24-28 under 35 U.S.C. §§ 102(b) and 103(a) be withdrawn and the dependent claims allowed.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 2, 13, and 24-28 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, he or she is encouraged to contact the undersigned representative at the below listed telephone number.

Respectfully submitted,

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IN THE CLAIMS

The claims have been amended as follows:

12. (Amended) An air mixing damper apparatus [characterized in that there] comprising:

a mechanism [is] provided between a plate door type air mixing damper for opening and closing an air introducing face of a heater core, and a rotation type lever of an actuator for driving the air mixing damper, [a] the mechanism for adjusting rotational speed of the air mixing damper to linearly change the temperature of discharged air with respect to the operation of the lever of the actuator, said mechanism for adjusting rotational speed comprising:

a cam provided in the air mixing damper and a pin provided on the lever of the actuator for engaging with said cam, said cam incorporating a guide path for guiding the pin of the lever of the actuator, and the guide path has a first guide path for effecting control at an initial opening stage of the air mixing damper, a second guide path for effecting control at an intermediate opening stage of the air mixing damper, and a third guide path for effecting control at a final opening stage of the air mixing damper, first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and said third guide path formed in a direction gradually separating outward with respect to the turning path of the pin

of the lever of the actuator, in a fully open position of the air mixing damper.

13. (Amended) An air mixing damper apparatus [characterized in that there] comprising:

a mechanism [is] provided between a plate door type air mixing damper for opening and closing an air introducing face of a heater core, and a rotation type lever of an actuator for driving the air mixing damper, [a] the mechanism for adjusting rotational speed at an initial opening stage and a final opening stage of the air mixing damper, to a speed lower than at an intermediate opening stage, said mechanism for adjusting rotational speed comprising:

a cam provided in the air mixing damper and a pin provided on the lever of the actuator for engaging with said cam, said cam incorporating a guide path for guiding the pin of the lever of the actuator, and the guide path has a first guide path for effecting control at the initial opening stage of the air mixing damper, a second guide path for effecting control at the intermediate opening stage of the air mixing damper, and a third guide path for effecting control at the final opening stage of the air mixing damper, said first guide path formed in a direction gradually separating outward with respect to a turning path of the pin of the lever of the actuator, in a fully closed position of the air mixing damper, and said third guide path formed in a direction gradually separating outward with respect to the turning path of the pin of the lever of the actuator, in a fully open position of the air mixing damper.

14.-23. (Canceled)

24. (Amended) An air mixing damper apparatus according to claim [18] 12, characterized in that there is provided urging means for urging the pin of the lever of the actuator into the first guide path at least at an initial opening stage of the air mixing damper, and urging the pin of the lever of the actuator into the third guide path at least at a final opening stage of the air mixing damper.

25. (Amended) An air mixing damper apparatus according to claim [19] 13, characterized in that there is provided urging means for urging the pin of the lever of the actuator into the first guide path at least at an initial opening stage of the air mixing damper, and urging the pin of the lever of the actuator into the third guide path at least at a final opening stage of the air mixing damper.

29.-30. (Canceled)